



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,490	06/17/2005	Hideki Sekiguchi	09792909-6305	2396

26263 7590 03/14/2007
SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

SHAH, MANISH S

ART UNIT	PAPER NUMBER
----------	--------------

2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,490	SEKIGUCHI ET AL.	
	Examiner	Art Unit	
	Manish S. Shah	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake et al. (# EP 0978547 A1) in view of Arita (# JP 10-158551).

Yatake et al. discloses:

- A recording liquid deposited on a support in the state of liquid droplets for recording thereon, comprising a dyestuff ([0035]-[0036]); a solvent for dispersing said dyestuff ([0043]); and an ethylene oxide adduct of a dihydric alcohol, containing a hydrocarbon group with 9 or less carbon atoms and the ethylene oxide adduct of a dihydric alcohol at least includes a branched hydrocarbon group ([0013]-[0034]; [0083]-[0116]).
- The ethylene oxide adduct of a dihydric alcohol includes at least one or more of organic compounds represented by the chemical formulas $R[(EO)_n-(PO)_m]_k-T$ (see Abstract).

Yatake et al. differs from the claim of the present invention is that the ratio I/V of an inorganic value (IO) to an organic value (OV) not less than 1 and not larger than 1.37.

Arita teaches that to have a bleed free printed image, ink composition has a ratio I/V of an inorganic value (IO) to an organic value (OV) is from 1 to 3 (see Abstract; [0012]-[0024]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the recording liquid of Yatake et al. by the aforementioned teaching of Arita in order to have a bleed free high quality printed image.

2. Claims 5-7 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake et al. (# EP 0978547 A1) in view of Arita (# JP 10-158551).

Yatake et al. discloses:

- A liquid cartridge mounted to a liquid supply device for operating as a supply source for said recording liquid for said liquid supply device, said liquid supply device being provided to a liquid emitting device adapted for emitting the recording liquid, held in a liquid vessel, in the form of liquid droplets, and depositing the emitted ink on a support, for effecting the recording ([0068]-[0074];[0088]), wherein said recording liquid comprises a dyestuff ([0035]-[0036]), a solvent for dispersing said dyestuff ([0043]) and an ethylene oxide adduct of a dihydric alcohol, containing a hydrocarbon group with 9 or less carbon atoms and the ethylene oxide adduct of a dihydric alcohol at least includes a branched hydrocarbon group ([0013]-[0034]; [0083]-[0116]).

- The liquid cartridge according to claim 5 wherein said ethylene oxide adduct of a dihydric alcohol includes at least one or more of organic compounds represented by the chemical formulas $R[(EO)_n-(PO)_m]_k-T$ (see Abstract).

- The liquid cartridge according to claim 5 wherein said liquid vessel includes a liquid reservoir for accommodating said recording liquid, a connecting part for connecting the liquid cartridge to a liquid supply device so that, when the liquid cartridge is connected to the liquid supply device, the recording liquid contained in said liquid reservoir may be supplied to said liquid supply device, a communication port for taking in outside air in an amount corresponding to a decreased amount of the recording liquid in said liquid reservoir when the liquid cartridge is mounted on the liquid supply device and said recording liquid is supplied from said liquid reservoir to said liquid supply device, an air inlet duct for establishing communication between said liquid reservoir and the communication port for introducing air taken in via said communication port into said liquid reservoir, and a storage arranged between said communication port and the air inlet duct for storing the recording liquid flowing out from said liquid reservoir ([0068]-[0074]; [0088]).

Yatake et al. differs from the claim of the present invention is that the ratio I/V of an inorganic value (IO) to an organic value (OV) not less than 1 and not larger than 1.37.

Arita teaches that to have a bleed free printed image, ink composition has a ratio I/V of an inorganic value (IO) to an organic value (OV) is from 1 to 3 (see Abstract; [0012]-[0024]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the recording liquid of Yatake et al. by the aforementioned teaching of Arita in order to have a bleed free high quality printed image.

3. Claims 10-12, 14-17 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake et al. (# EP 0978547 A1) in view of Arita (# JP 10-158551).

Yatake et al. discloses:

- A liquid emitting method employing a liquid emitting device comprising emitting means including a liquid chamber for storing a recording liquid, a supply part for supplying said recording liquid to said liquid chamber, one or more pressure generating element(s) provided to said liquid chamber for thrusting said recording liquid stored in said liquid chamber, and an emitting opening for emitting said recording liquid, thrust by said pressure generating element, onto the major surface of a support from said liquid chamber as a liquid droplet; and a liquid cartridge connected to said emitting means for operating as a supply source for said recording liquid ([0068]-[0074]; [0088]); said recording liquid comprising a dyestuff ([0035]-[0036]), a solvent for dispersing said dyestuff ([0043]) and an ethylene oxide adduct of a dihydric alcohol, containing a hydrocarbon group with 9 or less carbon atoms and the ethylene oxide adduct of a dihydric alcohol, at least includes a branched hydrocarbon group ([0013]-[0034]; [0083]-[0116]).

- The ethylene oxide adduct of a dihydric alcohol in said recording liquid includes at least one or more of organic compounds represented by the chemical formulas $R[(EO)_n-(PO)_m]_k-T$ (see Abstract).

- The emitting openings of said emission means are juxtaposed in a line (see Examples; [0088]).

Art Unit: 2853

Yatake et al. differs from the claim of the present invention is that the ratio I/V of an inorganic value (IO) to an organic value (OV) not less than 1 and not larger than 1.37.

Arita teaches that to have a bleed free printed image, ink composition has a ratio I/V of an inorganic value (IO) to an organic value (OV) is from 1 to 3 (see Abstract; [0012]-[0024]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the recording liquid of Yatake et al. by the aforementioned teaching of Arita in order to have a bleed free high quality printed image.

4. Claims 4, 8, 13 & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake et al. (# EP 0978547 A1) in view of Arita (# JP 10-158551) as applied to claims 1-3, 5-7, 9-12, 14-17 & 19 above, and further in view of Yatake (# US 2005/0075421).

Yatake et al. (547) and Arita discloses all the limitation of the recording liquid except that the dynamic surface tension (D20) at 20 Hz is not less than 30 mN/m and wherein the dynamic surface tension (D1) is not larger than 38 mN/m.

Yatake (421) teaches that to get the ink with excellent storage stability, recording liquid has a dynamic surface tension at 5 Hz or higher is less than 40 mN/m ([0018]-[0022]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the recording liquid of Yatake et al. (547) as modified by the

Art Unit: 2853

aforementioned teaching of Yatake (421) in order to have the ink with the excellent storage stability.

Response to Arguments

5. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

3/6/07